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# PROTOZOA

COMPILED BY

CECIL A. HOARE, D.Sc., F.R.S.,  
and C. D. OVEY, B.Sc.

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## FOREWORD

Papers dealing with Protozoa entirely from a medical or veterinary standpoint (clinical, therapeutic, etc.) are omitted, but notices of these will be found in *Tropical Diseases Bulletin* and *Veterinary Bulletin*.

## I.—TITLES.

**1.—Opinion 16.** The status under rule (d) in Article 30, of a pre-binomial specific name, published prior to 1758, in relation to a generic name published on, or before, 31st December 1930. *Opinions & Declarations Intern. Comm. Zool. Nomencl.*, London **1** (25) 1947 pp. 255–304.

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**3.—Anon.** Malaria—a momentous discovery. *Discovery*, Norwich **9** (5) 1948 p. 146.

**4.—Anon.** The nomenclature of disease 7th edn. H.M. Stat. Off.: London 1948 xiv+385 [Including Protozoa (pp. 20–24) and diseases caused by them.]

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†*Biglobigerinella algeriana* **sp. n.** Upper Senonian, Algeria, DAM & SIGAL 239.

†*Bitubulogenerina azuana* **sp. n.** Lower Miocene, Dominican Republic, BERMÚDEZ 99; *B. breviata* **sp. n.** Red Sea, SAID 847.

†*Bolivina striata* **sp. n.** Eocene, Louisiana, HUSSEY 474; †*B. profunda*, *pseudogemma* [for *B. gemma* Le Roy 1939 (non Cushman)], *subspatulata* **sp. n.**; *B. robusta* **var. n.** *pacifica* Upper Tertiary, Java, BOOMAART 110; †*B. cancellata*, *gasparensis* **sp. n.** Upper Oligocene; *B. dohmi*, *cibaoensis* **sp. n.** Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*B. denticulata*, *retifera*, *salebrosa* **sp. n.**; *B. striatella* **sp. n.** [nom. n. for *B. jacksonensis striatella* Cushman & Applin 1926] Eocene, Alabama, BANDY 60; †*B. chehalensis* Rau **sp. n.** [nom. n. for *B. astoriensis* Rau 1948 (non Cushman & Stewart 1947)] Miocene, U.S.A., ANON. 15; †*B. superba* **sp. n.** Calabrian, Italy, EMILIANI 293; †*B. basisenta* **var. n.** *oregonensis* Upper Eocene, Oregon, CUSHMAN, STEWART & STEWART 222; †*B.*

*insueta*, *ignara* **sp. n.** Eocene, Peru, CUSHMAN & STONE 224; †*B. esnechenensis*, *woodi* **sp. n.** [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676; †*B. thalmanni* **sp. n.** Miocene, Venezuela, RENZ 814; *B. hebes* **var. n.** *suezensis* Red Sea, SAID 847.

†*Bolivinita elegantissima* **sp. n.** Upper Tertiary, Java, BOOMGAART 110.

†*Boreloides* Cole and Bermudez, remarks on, Eocene, Cuba, REICHEL 805.

†*Buccicrenata* **gen. n.** (p. 252) [= *Ammobaculites* of Vanderpool 1933, and Lozo 1944 (partim); genotype *Ammobaculites subgoodlandis* Vanderpool] Lower Cretaceous Texas and Oklahoma, LOEBLICH & TAPPAN J. Paleont. Menasha Wis. 23 (3) 1949 pp. 245-266 figs.

†*Bulimina evea* **sp. n.** [for *B. nannina* Tappan 1943 (non Tappan 1940)] Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575; †*B. rotunda* **sp. n.** Eocene, Louisiana, HUSSEY 474; †*B. dominicana* **sp. n.** Upper and Middle Oligocene, Dominican Republic, BERMÚDEZ 99; †*B. simplex* **var. n.** *comis* Eocene, Alabama, BANDY 60; †*B. elegans* **var. n.** *subspinoso*; *B. aseriata* **sp. n.** *pseudospinosa* **var. n.**; *B. pyrula* **var. n.** *pseudospinescens* Calabrian, Italy, EMILIANI 293; †*B. punctatocostata* **sp. n.**; *B. (Desmobulimina) expansa* **sp. n.** Eocene, Peru, CUSHMAN & STONE 224; †*B. falconensis* **sp. n.** [for *B. buchiana* Cushman & Ponton 1932 (non d'Orb.) and *B. sculptilis* Renz 1942 (non Cushman)] Oligocene, Venezuela, RENZ 814.

†*Buliminella panzawai* **sp. n.** Miocene, Japan, ASANO 44; †*B. dominicana* **sp. n.** Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*B. biformata*, *longicamerata* **sp. n.** Eocene, Alabama, BANDY 60.

†*Cadosina sublapidosa*, *lapidosa*, *radiata*, *heliosphaera*, *ingens* **sp. n.** Cretaceous; *C. fusca misolensis*, *misolensis* **sp. n.** Jurassic, Misol, East Indies, VÖGLER 1051.

†*Cadosinella* **gen. n.** (p. 282) *gracillimoides* **sp. n.** (genotype) Cretaceous, Misol, East Indies, VÖGLER Paleontographica Stuttgart, Suppl. 4 (4) (4) 1941 pp. 243-314 figs.



†*Carpenterella* **gen. n.** (p. 313)  
*truncata* **sp. n.** (genotype) Middle  
Oligocene, Haiti, BERMÚDEZ Contr.  
Cushman Lab. Foraminif. Spec. Pub.  
No. 25 1949 pp. 1-322 figs.

†*Cassidulina dominicana* **sp. n.**  
Middle Oligocene, Dominican Re-  
public, BERMÚDEZ 99; †*C. alabamen-*  
*sis*, *armosa* **spp. n.** Eocene, Alabama,  
BANDY 60; †*C. diversa* **sp. n.** Eocene,  
Peru, CUSHMAN & STONE 224.

†*Ceratobulimina* (*Caratocaneris*)  
*stellata* **sp. n.** Eocene, Alabama,  
BANDY 60; †*C. hanzawai* **sp. n.**  
Miocene, Japan, ASANO 44; †*C.*  
*limbata* **sp. n.** Eocene, Louisiana,  
HUSSEY 474;

†*Chapmanina aegyptiensis* (Chap-  
man) of Silvestri genotype by sub-  
stitution (*non Patellina aegyptiensis*  
Chapman=genotype of *Dictyoconus*  
Blanckenhorn) = *C. gaseinensis*  
Silvestri, FRIZZELL 350.

†Chapmaninae **subfam. n.** (p. 482.)  
Eocene, FRIZZELL J. Paleont. Men-  
asha, Wis. 23 (5) 1949 pp. 481-495  
figs.

†*Chilostomella*, its species and  
related genera, Jurassic to Recent,  
CUSHMAN & TODD 228; †*Chilo-*  
*stomella primitiva* **sp. n.** [for *C. cf.*  
*ovoidea* Cushman & Hedberg 1941  
(*non* Reuss) and Cushman 1946, 1947]  
Upper Cretaceous, Venezuela and  
Colombia; *C. trinitatis* **sp. n.** [for  
*C. cf. ovoidea* Cushman & Renz 1946  
(*non* Reuss)] Upper Cretaceous, Trini-  
dad, B. W. I.; *C. mexicana* **var. n.**  
*chivana* [for *C. mexicana* Cushman &  
Stone 1947 (*non* Nuttall)] Eocene,  
Peru; *C. mediterraneis* **sp. n.** Straits  
of Sicily, CUSHMAN & TODD 228.

†*Chrysalidinella papillata* **sp. n.**  
Middle Miocene, Dominican Republic,  
BERMÚDEZ 99.

†*Chrysalogonium camellatum* **sp. n.**  
Middle Miocene, Dominican Republic,  
BERMÚDEZ 99.

*Cibicides*, gender of the genus in  
nomenclature, STAINFORTH 942;  
*Cibicides mabakethi* **sp. n.** Red Sea,  
SAID 847; †*C. concentricus* **var. n.**  
*washingtonensis* Pliocene, Western  
Washington, CUSHMAN, STEWART &  
STEWART 223; †*C. azuanus*, *barnetti*,  
*granulosus*, *hunteri* **spp. n.** Middle

Oligocene; *C. cana*, *minusculus*,  
*yaquensis* **spp. n.** Upper Miocene,  
Dominican Republic; *C. centralis*,  
*hispaniolae*, *micrus*, *richardsoni* **spp. n.**  
Lower Eocene, Haiti; *C. coryelli* **sp. n.**  
[for *C. floridanus* Coryell & Rivero  
1940 (*non* Cushman)], *C. guraboensis*,  
*heminwayae* **spp. n.** Middle Miocene;  
*C. dohmi* **sp. n.** Lower Miocene; *C.*  
*dominicus*, *elegans*, *trincherasensis*,  
*yuguatensis* **spp. n.**, *C. subtenuissimus*  
**var. n.** *quazumalensis* Upper Oligo-  
cene, Dominican Republic, BERMÚDEZ  
99; †*C. crassidiscus* **sp. n.** [for *C. cf.*  
*pseudouuellerstorfi* Howe 1939 (*non*  
Cole) and *Anomalina* *sp.* Cushman &  
Todd 1942 (*non* fig. 11)]; *C. flori-*  
*danus* **var. n.** *dimutivus*; *C. minutus*,  
*tallahattensis*, *truncatus* **spp. n.**; *C.*  
*pippeni* **var. n.** *stavensis*; *C. pseudo-*  
*ungarianus* **var. n.** *lisbonensis* Eocene  
Alabama, BANDY 60; †*C. glabratus*,  
*mammiformis*, *umbilicatus*, *discorbini-*  
*formis*, *mcguirti*, *submammiformis*  
**spp. n.** Eocene, Louisiana, HUSSEY  
474; †*C. abudurbensis* **sp. n.** [**nom.**  
**nud.**]; *C. multifaria* **var. n.** *mella-*  
*hensis* [**nom. nud.**] Paleocene or  
Cretaceous, Egypt, NAKKADY 676;  
†*C. falconensis* **sp. n.** Oligocene,  
Venezuela, RENZ 814; †*C. salsoen-*  
*sis* **sp. n.** Oligocene, Italy, PETERS &  
GANDOLFI 752.

†*Cibicidina* **gen. n.** (p. 121) *walli*  
(genotype), *subminuens* **spp. n.**; *C.*  
*mauricensis* **var. n.** *subinvoluta* Eocene  
Alabama; genus to include *Cibicides*  
*blanpiedi* Toulmin, *C. danvillensis*  
Howe & Wallace, *C. mauricensis*  
Howe & Roberts, *Anomalina missis-*  
*sippiensis* Cushman [= *Cibicides m.*  
Ellisor 1933 (*non* fig. 7)], BANDY Bull.  
Amer. Paleont. Ithaca 32 (131) 1949  
pp. 30-236.

†*Clavulinoides minimus* **sp. n.** Up-  
per Tertiary, Java, BOOMGAARD 110;  
†*C. dimidiatus* **sp. n.** Lower Eocene,  
Haiti, BERMÚDEZ 99.

†*Compressigerina* **gen. n.** (p. 219)  
(genotype *Uvigerina coartata* D. K.  
Palmer) Oligocene to Recent,  
BERMÚDEZ Contr. Cushman Lab.  
Foraminif. Spec. Pub. No. 25 1949  
pp. 1-322 figs.

†*Cornuspira lisbonensis* **sp. n.**  
Eocene, Alabama, BANDY 60.

†*Crespinella* gen. n. (p. 361) (genotype *Operculina* (?) *umbonifera* Howchin & Parr 1938) Miocene, Australia, PARR J. Min. Geol. Dept. Mines, Victoria, 2 (6) 1942 pp. 361–363 figs.

†*Cuneolina dominicana* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*C. pavonia* var. n. *parva*; *C. cylindrica* sp. n. Cretaceous, Middle East, HENSON 440.

†*Cyclammina gasparensis* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

*Cymbalopora tabagoensis* sp. n. associated with plants, West Indies, BRÖNNIMANN 126.

†*Daixima* gen. n. (p. 252) *ruzhencevi* sp. n. (genotype) Upper Carboniferous, Urals, Russia, ROZOVSKAJA C.R.Acad.Sci. Moscow, N.S. 69 (2) 1949 pp. 249–252 fig.

†*Darbyella miocenica* sp. n. Miocene, France, CUVILLIER & SZAKALL 229.

†*Daxia* gen. n. (p. 8) *cenomana* (genotype), *orbigny* spp. n. Cretaceous, France CUVILLIER & SZAKALL Foraminifères d'Aquitaine. Pt. I. Toulouse 1949 112 pp. figs.

†*Dentalina cucumis* sp. n. Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575; †*D. excentrica* sp. n. Upper Tertiary, Java, BOOMGAART 110; †*D. cocoaensis* var. n. *crucifera* [for *D. c. Cushman* 1935 (non Cushman 1925)]; *D. cooperensis* var. n. *nonapicalis* Eocene, Alabama, BANDY 60; †*D. grayi* sp. n. Permian, Australia, CRESPI 211; †*D. paradoxa*, *globata*, *acinacoides* spp. n. Eocene, Louisiana, HUSSEY 474.

†*Dentostomina guraboensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Dictyoconoides cooki* [= *Conulites cooki* Carter 1861], restatement of species, Eocene, India, GILL 389.

†*Dicyclina gatarensis* sp. n. Cretaceous, Middle East, HENSON 440.

†*Dimorphina danvillensis* var. n. *subtenuis* [for *Dentalina basitorta* Bergquist 1942 (non Cushman)] Eocene, Alabama, BANDY 60.

†*Discorbis baitoensis*, *cercadensis* spp. n. Lower Miocene; *D. debilis* sp. n. Middle Oligocene; *D. hoffi* sp. n. Upper Miocene; *D. maoensis*

sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*D. alveatus* var. n. *stavenis*; *D. tallahattensis* sp. n. *subnitens* var. n. Eocene, Alabama, BANDY 60; †*D. parva*, *petalina* spp. n. Eocene, Louisiana, HUSSEY 474; †*D. floscula* sp. n. Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575; †*D. pseudoscopos* sp. n. [nom. nud.] *duwi* var. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676; *D. pellucidus*, *suezensis* spp. n. Red Sea, SAID 847.

†*Discorbitura* gen. n. (p. 129) *diginata* sp. n. (genotype) Oligocene, Alabama, BANDY, Bull. Amer. Paleont. Ithaca 32 (131) 1949 pp. 30–236.

†*Doliolina termieri* var. n. *transcaucasica* Permian, Transcaucasia, MIKLUCHO-MAKLAJ & EJNOR 645.

†*Dorothea heteroclita* sp. n. Eocene, Alabama, BANDY 60; †*D. rotundata* sp. n. Upper Tertiary, Java, BOOMGAART 110; †*D. centralis* sp. n. Lower Eocene, Haiti; *D. colomi* sp. n. Middle Miocene; *D. debilis* sp. n. Upper Oligocene, Dominican Republic; *D. tenuis* sp. n. Lower Eocene, Haiti; *D. yaquatensis* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Dukhanina* gen. n. (p. 614) *conica* (genotype), *arabica* spp. n. Cretaceous, Middle East, HENSON, Ann. Mag. nat. Hist (11) 14 1949 pp. 605–630 figs.

†*Dunbarinella huantensis*, *mantaroensis* spp. n. Permian, Peru, ROBERTS 827.

†*Dyocibicides maoensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Ehrenbergina amina* sp. n. Middle Miocene; *E. falcata*, *pineyroi* spp. n. Upper Oligocene Dominican Republic, BERMÚDEZ 99.

†*Ellipsolagena alabamensis* sp. n. Eocene, Alabama, BANDY 60.

†*Elphidium cercadense* sp. n. Lower Miocene; *E. delicatulum*, *dominicense* spp. n. Upper Miocene; *E. guraboense* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*E. asagaiense*, *yumotoense* spp. n. Oligocene, Japan, ASANO 45,

†*Entosolenia vasiformis* sp. n. Eocene, Louisiana, HUSSEY 474; †*E. submarginata* sp. n. [nom. n. for *Vermiculum marginatum* Montagu 1803, *Lagena marginata* Brady 1884, Cushman 1913, 1921 & 1932 (non Walker & Boys)]; *E. orbignyana* var. n. *semicarinata*; *E. iota* sp. n. Upper Tertiary, Java, BOOMGAART 110.

†*Eoeponidella* gen. n. (p. 81) *linki* sp. n. (genotype), Upper Cretaceous, Canada, WICKENDEN, Trans. Roy. Soc. Canada (3) 42 (4) 1948 pp. 81–82 figs.

†*Eouvirgerina aegyptiaca* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

*Epistomaria punctata* sp. n. Red Sea, SAID 847; †*E. dominicana* sp. n. Lower Miocene, Dominican Republic, BERMÚDEZ 99.

†*Epistomina* Terquem, revue of genus; new inclusions, *Truncatulina favosoides* Egger; *Discorbis ripleyensis* Berry [= *E. caracolla* Cushman 1946 (non Roemer) (partim) and *E. fax* Nauss]; *E. supracretacea* sp. n. [nom. n. for *E. caracolla* Franke 1925 (non Roemer), *E. elegans* Cushman 1927 (non d'Orb.), *E. partschiana* Franke 1928 (non d'Orb.), *E. caracolla* Cushman and Church 1929 (non Roemer), *E. c.* Cushman 1931 (non Roemer), *E. c.* Loetterie 1937 (non Roemer), *E. c.* Cushman & Hedberg 1941 (non Roemer), *E. c.* Cushman & Todd 1943 (non Roemer), *E. c.* Cushman 1946 (non Roemer)] Upper Cretaceous Texas; *Rotalia carpenteri* Reurs; *E. chapmani* sp. n. [nom. n. for *Rotalia elegans* Jones and Parker 1860 (non d'Orb.), *Pulvinulina caracolla* Chapman 1898 (non Roemer), *P. elegans* Chapman 1898 (non d'Orb.) *E. elegans* Eichenberg 1933 (non d'Orb.) (partim)]; *E. reticulata* var. n. *suturalis*, Lower Albian, France, DAM 235; †*E. chromata* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Eponidella palmerae* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99.

*Eponides* Montfort 1808 (genotype *Nautilus repandus* Fichtel and Moll), discussion on the nomenclature of the genus, REDMOND 797; †*Eponides*

*badjonegoroensis*, *conicus*, *sinuosis* spp. n. Upper Tertiary, Java, BOOMGAART 110; †*E. abuillotensis*, Kirki spp. n. Lower Eocene, Haiti; *E. jaumei* sp. n. Upper Miocene; *E. petricosa* sp. n. Middle Eocene, Dominican Republic, BERMÚDEZ 99; †*E. lisbonensis* sp. n. Eocene, Alabama, BANDY 60; †*E. simplex* sp. n. Eocene, Louisiana, HUSSEY 474; †*E. abatissae* var. n. *multicameratus* Oligocene, Italy, PETTERS & GANDOLFI 752.

†*Falsoguthulina* gen. n. (p. 671) *wolburgi* sp. n. (genotype) Lower Cretaceous, Germany, BARTENSTEIN & BRAND J. Paleont. Menasha, Wis. 23 (6) 1949 pp. 669–672 figs.

†*Falsopalmula* gen. n. (p. 124) (genotype *F. tenuistriata* (Franke 1936)) [for *Flabellina* d'Orb. (partim) and *Palmula* Lea (partim)] [genus also includes *Palmula simplex* Cushman 1938] Mesozoic, BARTENSTEIN Senckenbergiana, 30 (4–6) 1949 pp. 119–137 figs.

†*Ferayina* gen. n. (p. 482) *coralliformis* (genotype) Eocene, Texas; *F. peruviana* sp. n. Eocene, Peru, FRIZZELL J. Paleont. Menasha Wis. 23 (5) 1949 pp. 481–495 figs.

†*Fissurina crassicarinata* sp. n. Eocene, Alabama, BANDY 60.

†*Flintina azuana*, *cercadensis* spp. n. Lower Miocene, Dominican Republic, BERMÚDEZ 99; †*F. serratula*, *variolaria* spp. n. Oligocene, France, CUVILLIER & SZAKALL 229.

†*Flosculinella reicheli* sp. n. Tertiary, Borneo, MOHLER 654.

†*Fronicularia hunteri* sp. n. Middle & Upper Oligocene; *F. moscosi* sp. n. Upper Oligocene; *F. ollsoni*, *yaguatensis* spp. n. Middle Oligocene; *F. yaguensis* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99; †*F. parri* sp. n. Permian, Australia, CRESPIN 211; †*F. capitana* sp. n. Eocene, Peru, CUSHMAN & STONE 244; †*F. elegantissima* sp. n. Eocene, Louisiana, HUSSEY 474; †*F. esnehensis* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Fusarchaia* gen. n. [nom. nud.] (p. 148) *bermudezi* (genotype) sp. n. [nom. nud.] [description to appear in Ecl. geol. helv.] Oligo-miocene,



Cuba, REICHEL Verh. Schweiz. naturf. Ges. 129 1949 p. 148.

†*Fusiella granum-oryzae* sp. n. Upper Carboniferous, Urals, Russia, GROSDILOVA 411.

†*Fusulina deprati* sp. n. Permian Japan, OZAWA 720.

†Fusulinidae, on the nomenclature of, KAHLER & KAHLER 507; †Fusulinidae of the Upper Palaeozoic, Peru, ROBERTS 827; †Fusulinidae from Limestone conglomerates in Japan, TORIYAMA 1014; †Fusulinids, Permian, from Timor, THOMPSON 1002; †Fusulinids of Siam, TORIYAMA 1015.

†*Gaudryina abuillotensis* sp. n. Lower Eocene; *G. longa* sp. n. Middle Oligocene; *G. modica* sp. n. Lower Eocene, Haiti, BERMÚDEZ 99; †*G. vadaszi* sp. n. [for *G. textilaroides* Vadasz 1911 (non Hantken)]; *G. althi*, *bukowiensis*, *jurassica* spp. n. Jurassic, Poland, CUSHMAN & GLAZEWSKI 221; †*G. pliocenica* sp. n. Pliocene, Western Washington, CUSHMAN, STEWART & STEWART 223; †*G. stavensis* sp. n. Oligocene, Alabama, BANDY 60; †*G. soldadonensis* var. n. *carus-dulais verneuilina loukorensis* [nom. nud.] Cretaceous or Paleocene, Egypt, NAKKADY 676.

†*Gaudryinella pseudoserrata* var. n. *extensa* Upper Cretaceous, Arkansas, CUSHMAN 219.

†*Glandulina simplex* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Globigerina increbescens, spimiloinflata* spp. n.; *G. ouachitaensis* var. n. *senilis*; *G. rotundata* var. n. *jacksonensis* Eocene, Alabama, BANDY 60; †*G. cretacea* var. n. *esnehensis* [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Globigerinella pseudovoluta* sp. n. Eocene, Alabama, BANDY 60.

†*Globigerinoides pseudodubia* sp. n. Eocene, Alabama, BANDY 60.

†*Globoquadrina quadraria* var. n. *advena* Middle Miocene, Dominican Republic, BERMÚDEZ 99.

*Globorotalia* s.s. proposed as subgenus of *Globorotalia* (subgenotype *Pulvinulina menardii* var. *tumida*), CUSHMAN & BERMÚDEZ 220; †*Globorotalia capdevilensis* sp. n. Lower Eocene

Cuba; *G. albeari* sp. n. Paleocene, Cuba, CUSHMAN & BERMÚDEZ 220; †*G. cibaoensis* sp. n. Upper Miocene; *G. lobata* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*G. inflata, perforataminuta* spp. n. Eocene, Louisiana, HUSSEY 474.

†*Globorotalites* Brotzen, review of genus; newly included *Gyroidina alabamensis* Sandige, *Globorotalia kochi* Pijpers, *Rotalia micheliniana* d'Orb., *Globorotalia subconica* Morrow, *G. umbilata* Loetterle and spp. 1, 2 and 3 (see p. 226), Cretaceous and Eocene, DAM & MAGNÉ 238.

†*Globotruncana* in North Italy, CITA 174; †*Globotruncana aegyptiaca* sp. n. [nom. nud.] *drui* var. n. [nom. nud.]; *G. arca* var. n. *esnehensis* [nom. nud.]; *G. pseudocretacea* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676; †*G. benacensis* sp. n. Cretaceous, Italy, CITA 174; †*G. linnei bulloides* subsp. n. [nom. n. for *Rosalina linnei* type 3 de Lapparent 1918, and ? *Globotruncana furnicata* H. J. Plummer 1931]; *G. linnei pendens* subsp. n. [for ? *Pulvinulina tricarinata* Quereau 1893; *Rosalina linnei* type 5 de Lapparent 1918, ? *Pulvinulina velascoensis* Cushman 1925, ? *Globotrotalia velascoensis* Cushman 1931, ? *Globotruncana arca* Cushman (*partim*) holotype of *G. rosetta* (Carsey) H. J. Plummer 1931, ? *G. arca* (Cushman) Cushman & Jarvis 1932, and ? *Globorotalia velascoensis* (Cushman) Cushman & Jarvis 1932]; *G. linnei stuarti* subsp. n. Cretaceous, Misol, East India, VÖGLER 1051.

†*Göesella guraboensis* sp. n. Middle Miocene; *G. trincherasensis* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Gonatosphaera inflata* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Gublerina* gen. n. (p. 26) *cuvillieri* sp. n. (genotype) Upper Cretaceous, France, KIKOÏNE, Bull. Soc. géol. Fr. (5) 18 (1-3) 1948 pp. 15-35.

†*Gümbelina striata* var. n. *deformis* Upper Cretaceous, France, KIKOÏNE 517; †*G. multicellaris* sp. n. Eocene, Louisiana, HUSSEY 474; †*G. striata*

**var. n. compressa** [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Gümbelitra stavenensis* sp. n. Eocene, Alabama, BANDY 60.

†*Guttulina stavenensis* sp. n. Eocene, Alabama, BANDY 60; †*G. symploca* sp. n. Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575; †*G. obscura, magna* spp. n. Eocene, Louisiana, HUSSEY 474.

†*Gypsina*, review of the genus and its species, Eocene to Recent, DUNARD 278.

†*Gyroidina basicrassata* sp. n. Middle Miocene; *G. cibaoensis* sp. n. [for *G. laevis* Coryell & Rivero 1940 (non d'Orb.)] Upper Miocene; *G. mauraie* sp. n. Upper Oligocene, **var. n. cristobalensis** Middle Oligocene, Dominican Republic; *G. pudica* sp. n. Lower Eocene, Haiti; *G. trincherasensis* sp. n. Upper Oligocene, BERMÚDEZ 99; †*G. obesa* sp. n. Eocene, Alabama, BANDY 60; †*G. cushmani* sp. n.; *G. neosoldanii* **var. n. acuta, pequena** Upper Tertiary, Java, BOOMGAART 110; †*G. scita* sp. n. Eocene, Peru, CUSHMAN & STONE 224; †*G. limbata* sp. n. Eocene, Louisiana, HUSSEY 474; †*G. flavescens* **var. n. mellahensis** [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Gyroidinoides venezuelana* sp. n. Miocene, Venezuela, RENZ 814.

†*Hagenowella paleocenica* sp. n. Paleocene, Netherlands, HOFKER 457.

†*Hantkenina* in the Eocene, Indo-Pacific region, THALMANN 993.

†*Hanzawaia tagaensis* sp. n. Miocene, Japan, ASANO 44.

†*Haplophragmoides tallahattensis* sp. n. Eocene, Alabama, BANDY 60; †*H. albus, bulloides, giganteus, inornatus* [for *H. sp. Le Roy* 1944], *reticulatus* spp. n.; *H. canariensis* **var. n. acutus** Upper Tertiary, Java, BOOMGAART 110; †*H. complanata* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Haplostiche trigona* sp. n. Upper Cretaceous, Holland, HOFKER 458.

†*Hectina* **gen. n.** (p. 669) [for *Hauerina* Reuss 1863 (non d'Orb. 1839)] *praeantiqua* sp. n. (genotype); genus to include *Hauerina antiqua* Reuss 1863, Lower Cretaceous, Europe, BARTENSTEIN & BRAND J. Paleont. Menasha Wis. 23 (6) 1949 pp. 669-672.

†*Hellenocyclina* **gen. n.** (p. 140) *beotica* sp. n. (genotype) Upper Cretaceous, Switzerland, REICHEL Verh. Schweiz. naturf. Ges. 129 1949 p. 140.

†Heteroheliciidae from the Upper Cretaceous, Northern, Pyrenees, KIKOINE 517.

†*Heterostegina cubana* sp. n. Eocene, Cuba, CIZANCOURT 177.

†*Histopomphus* **gen. n.** (p. 262) (genotype *Globulina redriverensis* Tappan) [includes *Polymorphina* Chapman 1892 (*partim*) (non d'Orb.), *Ramulina* Chapman 1896 (*partim*) (non Rupert Jones), *Vitriwebbina* Tappan 1940, 1943 (*partim*) (non Quenstedt), *Globulina* Tappan 1943 (*partim*) (non d'Orb.); other species *H. cervicornis* (Chapman) (= *Polymorphina orbignyii* Zborzewski *var. cervicornis* Chapman)] Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN, J. Paleont. Menasha Wis. 23 (3) 1949 pp. 245-266 figs.

†*Höglundia* Brotzen to include *Rotalia* (*Turbinulina*) *elegans* d'Orb. (= *Epistomina elegans* Cushman 1931), and *Epistomina eocenica* Cushman & Hanna, BERMÚDEZ 99.

†*Jigulites* **subgen. n.** (p. 1637) (type *Triticites jigulensis*), Upper Carboniferous, ROZOVSKAJA C.R. Acad. Sci. U.S.S.R. (N.S.) 59 1948 pp. 1635-1638 figs.

†*Karrerria*, observations on the genus, DAM 234.

†*Karrerriella proxima* sp. n. Upper Miocene; *K. p. var. n. palmaritensis*, *K. subcylindrica* **var. n. nana** Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Kelyphistoma siphoninaeformis* sp. n. Aquitanian, France, SIGAL 921.

†*Kurnubia* **gen. n.** (p. 608) *palaestiniensis* (genotype) sp. n. Jurassic, Palestine, HENSON, Ann. Mag. nat. Hist. (11) 14 1948 pp. 605-630 figs.

†*Lagena elliptica* sp. n.; *L. laevis* var. n. *stavenensis*; *L. onachitaensis* var. n. *alabamensis*; *L. sulcata* var. n. *spirata* Eocene; *L. humerifera*, *wallacei* [for *L. sp.* (B) Howe & Wallace 1932, and Bergquist 1942] spp. n. Oligocene, Alabama, BANDY 60; †*L. parvulipora* sp. n. [nom. n. for *L. elliptica* Bandy 1949 preocc. *L. apiculata* (Reuss) var. *elliptica* Reuss 1862 by *L. orbignyana* (Sequenza) var. *elliptica* Cushman [1923], BANDY 62; †*L. dominicana* sp. n. Upper Oligocene; *L. horquetensis* sp. n. Middle Oligocene, Dominican Republic, BERMÚDEZ 99; †*Lagenonodosaria nebulosa* sp. n. Pliocene, Japan, ISHIZAKI 482; †*L. fukushimaensis* sp. n. Miocene, Japan, ASANO 44.

†*Lamarckina guraboensis* sp. n. Middle Miocene, Dominican Republic BERMÚDEZ 99; †*L. biconvexa* sp. n. Eocene, Alabama, BANDY 60; †*L. claibornensis* var. n. *gemmulata* Eocene, Louisiana, HUSSEY 474.

†*Lenticulina cibaoensis* sp. n. [for *Hemicristellaria fragaria* Galloway & Hemingway 1941 (non Gümbel)] Middle Miocene; *L. cristobalensis*, *yaguatensis* spp. n. Middle Oligocene; *L. guraboensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 991; †*L. fukushimaensis* sp. n. Oligocene, Japan, ASANO 45; *L. (Lenticulites) rotulata*, remarks on, THALMANN 994.

†*Lepidocyclina (Eulepidina) formosoides* var. n. *asimmetrica* Tertiary, Italy, MARCHESINI 614; †*L. (Multi-lepidina) wanneri* sp. n. Neogene, Java, ABEELE 21; †*L. (Nephrolepidina) tournoueri* var. n. *umbonata* [nom. n. for *L. negri* Ferrero 1909 (partim) (fig. 6 only), *L. negrii* (Ferrero) Checchia Rispoli 1918 and *Nephrol. tournoueri* Gomez Lluca 1929 (partim) (non Lemoine & Douvillé)], MARCHESINI 614; †*L. (Nephrolepidina) makiyamai* sp. n. Miocene, Japan, MORISHIMA 664; †*Lepidocyclina* in Italy, MARCHESINI 614; †*Lepidocyclinae* of Java, ABEELE 21.

†*Liebusella baitoensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Linderina bilensis*, *nuttalli* [for *L. sp.* Newton & Holland 1899,

and *L. sp.* L. M. Davies 1927, and *L. buranensis* Nuttall 1931 (partim)] spp. n. Eocene, Somaliland, SILVESTRI 925.

†*Lingulina subcrassa* sp. n. Eocene, Alabama, BANDY 60.

†*Listerella minuta* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Lituola podolica*, *siemiradzki*, *compressa* spp. n. Jurassic, Poland, CUSHMAN & GLAZEWSKI 221.

†*Loxostoma karrerianum* (Brady) var. n. *javanese* Upper Tertiary, Java, BOOMGAART 110; †*L.* [mis-spelled *Laxostoma*] *applini* var. n. *aegypticea* [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Loxostomum baculum*, *serrula* spp. n. Eocene, Alabama, BANDY 60; *L. limbatum* var. n. *robustum*, Red Sea, SAID 847.

†*Marginulina abuillotensis* sp. n. Lower Eocene; *M. crepidula* [for *Nautilus crepidula* Fichtel & Moll 1803, *Cristellaria crepidula* d'Orb. 1839 et syn. and *Astacolus crepidula* D. K. Palmer 1945], *crepiduliformis*, *longicollis*, *yaguatensis* spp. n. Upper Oligocene; *M. dominicana* sp. n. Middle Oligocene; *M. hispaniolana*, *tenuistriata* spp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*M. crossota*, *digitalis*, *hantkeni* [nom. n. for *M. subbullaba* Hantken 1875 (non M. s. Gümbel 1861)], *stavenensis* spp. n. Eocene, Alabama, BANDY 60; †*M. nonconforma*, *anconoides*, *darbyella*, *inconspicua*, *producta*, *striatoglabrata*, *inornata*, *bulbosa* spp. n. Eocene, Louisiana, HUSSEY 474; †*M. wetherellii* var. n. *intercostata*, *longicistata* [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

*Massilina misrensis* sp. n. Red Sea, SAID 847; †*M. yazooensis* sp. n. Eocene, Alabama, BANDY 60.

†*Matanzia cibaoensis*, *incrassata* spp. n. Upper Miocene, Dominican Republic; *M. miocenica* sp. n. [for *Textulariella miocenica* Cushman 1936, 1937, Renz 1948] Oligocene, Venezuela and Dominican Republic; *M. proxima* sp. n. Middle Oligocene, Dominican Republic, BERMÚDEZ 99.



†*Miliolina andrussovi* sp. n. [nom. nud.] River Fais sediments, Northern Caucasus, Russia, BOGDANOVITCH 108.

†*Montiparus* subgen. n. (p. 1637) (subgenotype *Triticites montiparus* (Ehr.)) Upper Carboniferous, Rozovskaja C.R. Acad. Sci. U.S.S.R. (N.S.) 59 (9) 1948 pp. 1635-1638 figs.

*Nautilus beccarii* Linné [= *Rotalia beccarii*], nomenclature and generic position, FRIZZELL & KEEN 352.

†*Neogyroidina* gen. n. (p. 255) (genotype *Gyroidina protea* Cushman & Bermúdez) Tertiary; also included in genus are *G. elongata* Cushman & Bermúdez and *G. nassauensis* Cole, BERMÚDEZ Contr. Cushman Lab. Foraminif. Spec. Pub. No. 25 1949 pp. 1-322 figs.

†*Nodobacularia turbiformis* sp. n. Oligocene, France, CUVILLIER & SZAKALL 229.

†*Nodogenerina aperturata*, javana, spp. n.; *N. pacifica* spp. n. [nom. n. for *N. insecta* Cushman 1921, Le Roy 1941 & 1944 (non Schwager)]; *N. scalaris* var. n. simplex, spinifera, quadrata Upper Tertiary, Java, BOOMGAART 110; †*N. aminaensis* sp. n. Middle Miocene; *N. heterosculpta* sp. n. Oligocene; *N. laevigata*, trincherasensis spp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Nodosarella annulospinosa* sp. n. Eocene, Alabama, BANDY 60; †*N. hologlypta* sp. n. Middle Oligocene, Dominican Republic; genus also to include *Ellipsonodosaria decurta* Bermúdez, BERMÚDEZ 99; †*N. elongata* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Nodosaria maoensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*N. pyriformis*, selenoides, delicata spp. n. Eocene, Louisiana, HUSSEY 474; †*N. kokozuraensis* sp. n. Miocene, Japan, ASANO 44; †*N. springsurensis*, serocoldensis spp. n. Permian, Australia, CRESPIE 211; †*N. bradyi* sp. n. [nom. n. for *N. raphanus* Brady 1884 (non Linn.)] Upper Tertiary, Java, BOOMGAART 110; †*N. ithystoecha*, rigentia spp. n. Lower Cretaceous, Texas, LOEBLICH & TAPPAN 575;

†*N. misolensis* sp. n. Cretaceous, Misol, East Indies, VOGEL 1051.

†*Nonion nakosoense* sp. n. Miocene, Japan, ASANO 44; †*N. rolshauseni*, stavensis, tallahattensis spp. n. Eocene, Alabama, BANDY 60.

†*Nonionella jacksonensis* var. n. spiralis; *N. longicamerata* sp. n. Eocene, Alabama, BANDY 60; †*N. mariannae* sp. n. Upper Tertiary, Java, BOOMGAART 110.

†*Nummulites* (Nummulites) *dorotheae*, rutenis spp. n. Eocene, Cuba, CIZANCOURT 177.

†Nummulitidae from the Eocene, Cuba, CIZANCOURT 177.

†*Nummulostegina*, on the genus, KAHLER 505.

†*Olssonina* gen. n. (p. 99) *cribrosa* sp. n. (genotype) Middle Eocene, Dominican Republic, BERMÚDEZ Contr. Cushman Lab. Foraminif. Spec. Pub. No. 25, 1949 pp. 1-322 figs.

†*Oolina spherica* sp. n. Eocene, Alabama, BANDY 60.

†*Orbitoides* (of Kossmat 1897) recognized to be *Discocyclina*, RAO 785.

†*Orbitolina discoidea* var. n. delicata (p. 54) Lower Cretaceous, Arabia, HENSON Monog. Brit. Mus. London 1948 127 pp. figs. [Omitted from Z.R. (2) lxxxv : 434.]

†*Orthophragmina varians* var. n. obesa Eocene, Somaliland, SILVESTRI 925.

†*Paleopolymorphina eocaenica* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Palmula borroi*, dominicana, longiforma spp. n. Middle Miocene; *P. borroi* var. n. tenuistriata. Upper Miocene; *P. elongata* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*P. decorata* sp. n. Eocene, Louisiana, HUSSEY 474; †*P. wordi* sp. n. [nom. nud.] undulata var. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Parafrondicularia javana* sp. n. Upper Tertiary, Java, BOOMGAART 110.

†*Parafusulina durhami*, nancei, trumpyi spp. n. Permian, Maracaibo basin, THOMPSON & MILLER 1003; †*P. peruana*, kummeli spp. n. Permian, Peru, ROBERTS 827.

- †*Paraschwagerina* (*Acervoschwagerina* subgen. n. (p. 207) *endoi* sp. n. (subgenotype) Lower Permian, Japan, HANZAWA J. Paleont. **23** (2) 1949 pp. 205-209 figs.; †*Paraschwagerina* *baschkirica*, *renicoides*, *tumidofusoides* spp. n. Upper Carboniferous, Urals, Russia, GROSIDLOVA 411.
- †*Parrella dominicana* sp. n. Middle Oligocene, Dominican Republic, BERMÚDEZ 99.
- †*Pavoninoides* gen. n. (p. 58) *panamensis* sp. n. Oligocene, Panama, BERMÚDEZ Contr. Cushman Lab. Foraminif. Sharon, Mass. **25** (3) 1949 p. 58 fig.
- †*Peneroplis senoniensis* sp. n. Upper Cretaceous, Holland, HOFKER 458.
- †*Pfenderina* gen. n. (p. 609) (genotype *Eorupertia neocomiensis* Pfender) Mesozoic, Middle East, HENSON Ann. Mag. nat. Hist. (11) **14** 1948 pp. 605-630 figs.
- †*Planorbulina dominicana* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99; *P. mabahethi* sp. n. Red Sea, SAID 847.
- †*Planularia caribbeana* sp. n. [nom. n. for *P. cushmani* D. K. Palmer 1940 (non Kleinpell) and Keijzer 1945, and *Planularia* sp. (?) Cushman 1930, and Cushman and Cahill 1933] Upper Oligocene; *P. dominicana* sp. n. Middle Miocene; *P. gasparensis trinae* spp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*P. stavensis*, *lanceolata* spp. n. Eocene, Alabama, BANDY 60; †*P. leroi* sp. n. [for *P. sp.* LeRoy 1941] Upper Tertiary, Java, BOOMGAART 110; †*P. parva* sp. n. Eocene, Louisiana, HUSSEY 474.
- †*Planulina gardesana* sp. n. Cretaceous, Italy, CITA 173; †*P. subinflata* sp. n. Oligocene, Alabama, BANDY 60.
- †*Planulinella* gen. n. (p. 158) *escornebovensis* sp. n. (genotype) var. n. *obesa*; includes also *Planulina alavensis* Palmer, Aquitanian, France, SIGAL 921.
- †*Plectina robusta*, *regularis* spp. n. Eocene, Louisiana, HUSSEY 474.
- †*Plectofrondicularia vokesi* sp. n. Upper Eocene, Oregon, CUSHMAN, STEWART & STEWART 222; †*P.*
- keijzeri* sp. n. Middle Oligocene, Dominican Republic, BERMÚDEZ 99.
- †*Pleurostomella schuberti* var. n. *dominicana* Upper Miocene, Dominican Republic, BERMÚDEZ 99.
- †*Polydizodina persica* varr. n. *einori*, *minor* Permian, Transcaucasia, MIKLUCHO-MAKLEJ & EJNOR 645.
- †*Polymorphina liosoma* sp. n. Eocene, Alabama, BANDY 60.
- †*Praealveolina cucumoides* sp. n. Cretaceous, Somaliland, SILVESTRI 924.
- †*Preverina* gen. n. (p. 489) (genotype *Chapmanina galea* Silvestri) Neogene, Italy, FRIZZELL J. Paleont. Menasha, Wisc. **23** (5) 1949 pp. 481-495 figs.
- †*Profusulinella manuensis* sp. n. Carboniferous, Peru, ROBERTS 827.
- †*Protriticites pseudoubomplicatus* Tschernova [nom. nud.] Carboniferous, Stalingrad district, Russia, SAVINOV 860.
- †*Pseudochrysalidina dominicana* sp. n. Middle Eocene, Dominican Republic, BERMÚDEZ 99.
- †*Pseudoclavulina dominicana* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*P. distincta* sp. n. [and unnamed var.] Upper Tertiary, Java, BOOMGAART 110.
- †*Pseudocyclammina bukowiensis*, *rogalai* spp. n. Jurassic, Poland, CUSHMAN & GLAZEWSKI 221.
- †*Pseudofusulina rasuwilcensis*, *andina*, *meloformata* spp. n. Permian, Peru, ROBERTS 827.
- †*Pseudogaudryina ishikiensis* sp. n. Miocene, Japan, ASANO 44.
- †*Pseudoglandulina fortis* sp. n. Upper Oligocene; *P. obsoleta* sp. n. Middle Miocene; *P. spinosa* sp. n. Middle Oligocene; *P. tenuistriata* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99.
- †*Pseudonodosaria* gen. n. (p. 81) (genotype *Glandulina discreta* Reuss) BOOMGAART Smaller foraminifera from Bodjonegoro (Java). Utrecht, 1949 175 pp. figs.
- †*Pseudonubeculina* gen. n. (p. 670) [for *Nubecularra* Chapman 1891 (non DeFrancis 1825); genotype N.

*nodulosa* Chapman] Lower Cretaceous, Europe, BARTENSTEIN & BRAND J. Paleont., Menasha, Wis. 23 (6) 1949 pp. 669-672 figs.

†*Pseudoparrella japonica* sp. n. Miocene, Japan, ASANO 44.

†*Pseudopolymorphina plectilis* sp. n. Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575.

†*Pseudoschwagerina taiensis* sp. n. Permian, Siam, TORIYAMA 1015; †*P. ayacuchensis*, *braggii*, *vilcanotensis* spp. n. Permian, Peru, ROBERTS 827; †*P. alpina*, *citriformis*, *elegans*, *lata* spp. n. Permian, Eastern Alps, KÄHLER & KÄHLER 506; †*P. dallmuisi* sp. n. Permian, Maracaibo basin, THOMPSON & MILLER 1003.

†*Pullenia quinqueloba* var. n. *aplata* Eocene, Alabama, BANDY 60; *P. duplicata* sp. n. [nom. n. for *P. compressiacula* auct. (non Reuss 1866 = *Nonionina quinqueloba* Reuss 1851)], STAINFORTH 942.

†*Pulvinulinella bella* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Pyrgo subalata* sp. n. Eocene and Oligocene, France, CUVILLIER & SZAKALL 229.

†*Quadratina euthemon* sp. n. Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575.

†*Quinqueloculina yaguatensis* sp. n. Middle Oligocene, Dominican Republic, BERMÚDEZ 99; †*Q. constans* sp. n. Eocene, Alabama, BANDY 60; †*Q. gibbaos*, *subgibbosa*, *amygoulata*, *acuta*, *striaturata*, *parvotriangularis*, *fragilissima* spp. n. Eocene, Louisiana, HUSSEY 474; *Q. anguina* var. n. *arenata* [nom. n. for *Miliolina anguina* Terquem var. *agglutinans* Wiesner fide Heron-Allen & Earland 1915, and *Q. a.* var. *agglutinans* Cushman 1924, 1932 preocc. *Q. agglutinans* d'Orb.]; *Q. mosharrafti*, *multimarginata* spp. n. Red Sea, SAID 847.

†*Ramulina globulifera* var. n. *pulchra* Middle Miocene; *R. polita* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99; †*R. muricata* sp. n. [for *R. aculeata* Wright, Chapman 1896 (partim) (non *Dentalina aculeata* d'Orb., 1840, non

*Ramulina aculeata* d'Orb., Wright 1886); *R. a.* Wright, Eichenberg 1933 (partim), Tappan 1943 (partim), Brotzen 1936, Marie 1941] Lower Cretaceous, Oklahoma, LOEBLICH & TAPPAN 575.

†*Raphanulina Zborzewski* 1834 is incorrectly called *Globulina* by most authors, although Zborzewski's name is valid and was published five years before that of d'Orbigny's; genus to include *Globulina gibba* d'Orb., *G. inaequalis* Reuss and *G. tuberculata* d'Orb., BANDY 60.

†*Rauserites* subgen. n. (p. 1637) (in gen. *Triticites*: type not indicated), Upper Carboniferous, ROZOVSKAJA C.R. Acad. Sci. USSR (N.S.) 59 1948 pp. 1635-1638 figs.

†*Rectobolivina gasparensis* sp. n. Upper Oligocene; *R. glabra* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Recurvoides azuaensis*, *trincherasensis* spp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Reinholdella Brotzen* 1948; genotype originally designated as *Asterigerina dreheri* (Bartenstein) of ten Dam & Reinhold 1941 [1942]; genotype should be *R. dreheri* (Bartenstein) = *Discorbis dreheri* Bartenstein 1937, *A. d.* being a synonym of this, BROTZEN 130.

†*Reophax acosta* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99; †*R. payenborchella* sp. n. Upper Tertiary, Java, BOOMGAART 110; †*R. angoti* sp. n. Miocene, France, CAVILLIER & SZAKALL 229.

†*Reussella costata* sp. n. Eocene, Louisiana, HUSSEY 474; †*R. moodyensis* sp. n. Eocene, Alabama, BANDY 60; †*R. aegyptiacus* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Robertina howei* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Robulus abuillotensis* sp. n. Lower Eocene, Haiti; *R. acosta*, *bulbosus*, *dissimilis*, *guazumalensis*, *intusvortex*, *trinae*, *yaguatensis* spp. n. Upper Oligocene; *R. caritae*, *cristobalensis* spp. n. Middle Oligocene; *R. platensis* sp. n. Middle Miocene; *R. yaguensis* sp. n. Middle & Upper Miocene,



Dominican Republic, BERMÚDEZ 99;  
 †*R. bonnardi* sp. n. Eocene, *R. aquitanicus* sp. n. Eocene to Miocene, France, CUVILLIER & SZAKALL 229;  
 †*R. davisii*, *euglypheus* [for (?) *R. dumblei* Cushman 1946 (non Weinzierl & Applin)], *rectidorsatus* spp. n. Eocene, Alabama, BANDY 60;  
 †*R. limbatus*, *trochoides*, *umbonatus*, *translucidus* spp. n. Eocene, Louisiana, HUSSEY 474; †*R.* [mis-spelled *Kobulus*] *mellahensis* var. n. *obesus* [nom. nud.] Paleocene & Cretaceous, Egypt, NAKKADY 676.

†*Rotalia similis* sp. n. Oligocene, Alabama, BANDY 60.

†*Rotalipora cushmani* (Morrow) [for *Globorotalia cushmani* Morrow 1934, et syn.]; *R. c.* var. n. *evoluta* Cretaceous Algeria; *R. globotruncanoides* sp. n. Cretaceous [no loc. given], SIGAL 917.

†*Rotorbinella* Bandy to include *Rotalia rosea* d'Orb. and *R. tholus* Galloway & Heminway, BERMÚDEZ 99; †*R. packardi* sp. n. Oligocene, Alabama, BANDY 60.

†*Rugofusulina incaica* sp. n. Permian, Peru, ROBERTS 827.

†*Saracenaria ornatula* var. n. *regia* Eocene; *S. stavenensis* sp. n. Oligocene, Alabama, BANDY 60; †*S. dohmi* sp. n. Upper Oligocene; *S. italica* var. n. *maensis* Upper Miocene; *S. toddae* sp. n. [nom. n. for *S. cushmani* D. K. Palmer 1945 (non Tappan)] Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*S. perforata*, *parva*, *limbata* spp. n. Eocene, Louisiana, HUSSEY 474.

†*Schenckiaella* Thalmann to include *Listerella antillarum* Cushman 1936, 1937 [= *Clavulina communis* Flint 1897 (partim) (non d'Orb.)], *Clavulina bramlettei* Cushman 1929 (= *Listerella* Cushman 1937), *Listerella cojimarensis* Palmer 1940, *Verneuilina cyclostoma* Galloway & Morrey 1929 (= *Clavulina* Cushman 1929 and *Listerella* Cushman 1937) [= *Clavulina pallida* Galloway & Morrey (non Cushman)], *Listerella gracillina* Cushman & Bermúdez 1937 et. syn., Tertiary, BERMÚDEZ 99.

†*Schubertella australis* sp. n. Permian, Maracaibo basin, THOMPSON & MILLER 1003.

†*Schwagerina belajensis*, *ellipsoides*, *sterlitamakensis* spp. n.; *S. andelsoni* var. n. *fusoides*, Upper Carboniferous Urals, Russia, GROSILLOVA 411; †*S. brouweri* sp. n. [for (?) *Fusulina granum-avenae* Schubert 1915 (partim)] Permian, Timor, THOMPSON 1002; †*S. oxia*, *tintersis*, *bowmani* spp. n. Permian, Peru, ROBERTS 827; †*Schwagerina? hedbergi* sp. n. Permian, Maracaibo basin, THOMPSON & MILLER 1003.

†*Sigmoidella lisbonensis* sp. n. Eocene, Alabama, BANDY 60.

†*Sigmoidina cibaoensis*, *dominicana*, *maensis*, *rustica* spp. n. Middle Miocene; *S. hispaniolana* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99.

†*Siphogenerina spinulosa* sp. n. Eocene, Louisiana, HUSSEY 474; †*S. solitaria* sp. n. Eocene, Peru, CUSHMAN & STONE 224; †*S. acuta*, *spinea*, *stonei*, *taberana* spp. n.; *S. transversa* var. n. *horquetensis* Middle Oligocene, BERMÚDEZ 99; †*S. esneheensis* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Siphogenerinoides oveyi* sp. n. [nom. nud.] *compressa* var. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Siphonclavalina* gen. n. (p. 43) *trigona* sp. n. (genotype) Eocene, Italy, SILVESTRI Bol. Soc. geol. ital, 66 (1) 1948 pp. 43-45 fig.

†*Siphonina cibaoensis* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99; †*S. umbonata* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Siphoninella parva* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Siphonodosaria* to include the following: *Ellipsonodosaria dentaliformis* Cushman & Jarvis, *E. gracilis* Palmer & Bermúdez, *E. modesta* Bermúdez, *E. nuttalli* Cushman & Jarvis [= *Nodosaria abyssorum* Guppy 1904 (non Brady)], *E. n.* var. *gracillima* Cushman & Jarvis, *E. verneuilii* (d'Orb.) var. *paucistriata* [= *S. paucistriata*], *E. recta* Palmer & Bermúdez *Dentalina verneuilii* d'Orb., BERMÚDEZ 99.

†*Siphosigmolima* gen. n. (p. 361) (genotype *Spiroloculina tateana* Mowchin 1889) Miocene, Australia, PARR J. Min. Geol. Dept. Mines, Victoria 2 (6) 1942 pp. 361–363.

†*Sphaeroidina ciperana* sp. n. [for *S. variabilis* Cushman & Stainforth 1945 (non Reuss)] Oligocene, Trinidad B.W.I.; *S. compacta* sp. n. [for *S. bulloides* Cushman 1914 (non d'Orb.)] Yucatan Channel; *S. nitida* sp. n. [for *S. bulloides* Cushman 1921 (non d'Orb.)] Phillipines; *S. compressa* sp. n. [for *S. bulloides* Cushman 1919 (non d'Orb.)] waters of New Zealand & New South Wales, CUSHMAN & TODD 226.

†*Spiroloculina lamposa* sp. n. Eocene, Louisiana, HUSSEY 474; †*S. toddae* sp. n. Middle Oligocene, Dominican Republic, BERMÚDEZ 99; †*S. lisbonensis* sp. n. Eocene, Alabama, BANDY 60; †*S. eocenica* sp. n. Eocene, France, CUVILLIER & SZAKALL 229; *S. communis* var. n. *convexa*, *S. elegantissima*, *nummiformis* spp. n. Red Sea, SAID 847.

†*Spiroplectammina abuillotensis*, *caribbeana* spp. n. Lower Eocene, Haiti, BERMÚDEZ 99; †*S. tortuosa* sp. n. Upper Tertiary, Java, BOOMGAART 110; †*S. alabamensis* var. n. *diminutiva*; *S. gracilentia*, *pseudolongata* [for (?) *Textularia mississippiensis elongata* Davis, 1941] spp. n. Eocene; *S. latior* sp. n. Oligocene, Alabama, BANDY 60.

†*Sporobulimina* gen. n. (p. 82) *perforata* sp. n. (genotype) Upper Cretaceous, N. W. Peru, STONE J. Paleont., Menasha, Wis. 23 (1) 1949 pp. 81–83 figs.

†*Sporobuliminella* gen. n. (p. 81) *stainforthi* sp. n. (genotype) Upper Cretaceous, N. W. Peru, STONE J. Paleont., Menasha, Wis. 23 (1) pp. 81–83 figs.

†*Stensiöina esnehensis* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676.

†*Stichocassidulina peruviana* sp. n. Upper Eocene, N. W. Peru, STONE 954.

†*Stichocibicides aricki* sp. n. Lower Eocene, Haiti, BERMÚDEZ 99.

†*Stomiosphaera polygona, spinosa* spp. n. Cretaceous; *S. aculeata* sp. n. Cretaceous and Jurassic, Misol, East Indies, VÖGLER 1051.

†*Streblus dominicana* sp. n. Upper Oligocene; *S. mineacea* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99; †*S. tosaensis*, *takanabensis*, *ketienziensis*, *sikokuensis*, *nakamurai*, *yabei* [for *Rotalia schroeteriana* Asano 1936 (partim) and 1937 (non Parker & Jones)] spp. n. Neogene and Recent, Japan, ISHIZAKI 483.

†*Tetraplasma* gen. n. (p. 672) [for *Triplasia* Reuss 1854, partim] *georgsdorfensis* sp. n. (genotype) [= *Haplophragmium murchisoni* Reuss 1891, partim] Lower Cretaceous, Germany, BARTENSTEIN & BRAND J. Paleont. Menasha, Wis. 23 (6) 1949 pp. 669–672 figs.

†*Textularia dibollensis* var. n. *stavensis*, Eocene, Alabama, BANDY 60; *T. aegyptica* sp. n.; *T. kerimbaensis* sp. n. [nom. n. for *T. conica* d'Orb. var. *corrugata* Heron-Allen & Earland 1915 (non *T. corrugata* Costa), and *T. corrugata* Cushman 1932 (non Costa) and Lalicker & McCulloch 1940] Kerimba Archipelago and Red Sea; *T. cushmani* sp. n. Red Sea, SAID 847; †*T. assimilis* sp. n. Middle Oligocene; *T. dominicana* sp. n. Middle Miocene; *T. hispaniolana* sp. n. Upper Oligocene; *T. palmerae* sp. n. Lower Miocene; *T. yaguantensis* sp. n. Upper Oligocene; *T. yasicaensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99; †*T. negra*, *rubra* spp. n. Upper Tertiary, Java, BOOMGAART 110; †*T. vaurini*, *aquitana* spp. n. Miocene, France, CUVILLIER & SZAKALL 229.

†*Textulariella polygona* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Thalmaninella* gen. n. (p. 101) *brotzeni* sp. n. (genotype) Cretaceous, Algeria, SIGAL Rev. Inst. Français Pétrol 3 (4) 1948 pp. 95–103 figs.

†*Triloculina subrotunda* [=cf. *T. rotunda* var. Howe and Wallace, 1932], *subtumidifrons* spp. n. Eocene, Alabama, BANDY 60; *T. asymmetrica* sp. n. Red Sea, SAID 847; †*T. pinguis* sp. n. [nom. n. for *T. subrotunda* Bandy 1949 prec. *Vermicularium subrotundum* Montagu 1803 (= *T. subrotundum* (Montagu))] BANDY 62.

†*Trimosina gurarboensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Tritaxilina suturata* sp. n. Middle Oligocene; *T. yasicaensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Triticites* subdivided into 4 subgenera: *Montiparus* subgen. n. [type *T. (M.) montiparus*], *Triticites* subgen. n. [type *T. (T.) secalicus*], *Rausserites* subgen. n. (type not indicated), *Jigulites* subgen. n. [type *T. (J.) jigulensis*] ROZOVSKAJA C. R. Acad. Sci. U.S.S.R. (N.S.) 59 1948 pp. 1635–1638 figs. †*Triticites* subgen. n. (p. 1637) (type *Triticites secalicus*), Upper Carboniferous, ROZOVSKAJA C. R. Acad. Sci. U.S.S.R. (N.S.) 59 1948 pp. 1635–1638 figs. †*Triticites pillahuarensis*, *pajerensis*, *peruensis* spp. n.; *T. nitens* subsp. n. *subnitens* Permian Peru, ROBERTS 827.

†*Trochalina arabica* sp. n. [nom. n. for *T. intermedia* Henson 1948 preoc. Frentzen 1941], HENSON 441.

†*Trochammina trincherasensis* sp. n. Upper Oligocene, Dominican Republic, BERMÚDEZ 99; †*T. asagaiensis* sp. n. Oligocene, Japan, ASANO 45.

†*Truncorotalia* subgen. n. (of *Globorotalia*) (p. 35) (subgenotype *Rotalina truncatulinoides* d'Orb.), fossil and recent; spp. included *G. (T.) truncatulinoides* (d'Orb.), *hirsuta* d'Orb., *crassata* (Cushman), and varr. *aequa* Cushman & Renz and *densa* (Cushman), *aragonensis* Nuttall, *wilcoxensis* Cushman & Ponton and var. *acuta* Toulmin; *T. brödermanni* sp. n. Eocene, Cuba; *G. (T.) spinulosa* Cushman, *velascoensis* (Cushman), CUSHMAN & BERMÚDEZ, Contr. Cushman Labs. Foram. 25 (2) 1949 pp. 26–45 figs.

†*Turborotalia* subgen. n. (of *Globorotalia*) (p. 42) (subgenotype *G. centralis* Cushman & Bermúdez), fossil and recent; spp. included *Globorotalia (T.) punctulata* (d'Orb.), *cerro-azulensis* (Cole), *oceanica* sp. n. [for *Pulvinulina crassa* Brady 1884 (non *Rotalina crassa* d'Orb.)], *mayeri* Cushman & Ellisor, *centralis* Cushman & Bermúdez, CUSHMAN & BERMÚDEZ, Contr. Cushman Lab. Foraminif., Sharon, Mass. 25 (2) 1949 pp. 26–45 figs.

†*Uvigerina microspinoso* sp. n. Eocene, Alabama, BANDY 60; †*U. subfusiformis* sp. n. Eocene, Louisiana, HUSSEY 474; †*U. minuta* sp. n. Eocene, Peru, CUSHMAN & STONE 224; *U. shukrii, toddae* spp. n. Red Sea, SAID 847; †*U. azuana* sp. n. Lower Miocene; *U. banicaensis*, *comendadorensis*, *gasparsensis*, *incisa*, *laevipicata*, *nana*, *viaensis* spp. n. Upper Oligocene; *U. bealli*, *hispaniolana*, spp. n.; *U. taberana* sp. n. *baitoana* var. n., *woodringi* sp. n. *obsoleta* var. n. Middle Oligocene; *U. grayacanensis* sp. n. Lower Oligocene; *U. maoensis* sp. n. [for *U. beccarii* Coryell & Rivero 1940 (non Fornasini)], *quisqueyana* sp. n. Upper Miocene; *U. rivasisensis* sp. n. Middle Miocene, Dominican Republic, BERMÚDEZ 99.

†*Uvigerinella subquadrata* sp. n. Eocene, Louisiana, HUSSEY 474.

†*Valvulammmina picardi* sp. n. Cretaceous, Middle East, HENSON 440.

†*Valvulina kitchini* sp. n. Eocene, Middle East, HENSON 440.

†*Valvulinella wellingsi, jurassica* spp. n. Jurassic, Middle East, HENSON 440.

†*Valvulineria gasparsensis* sp. n. Upper Oligocene, Dominican Republic; *V. haitiana* sp. n. Lower Eocene, Haiti, BERMÚDEZ 99; †*V. gracilis* sp. n. Eocene, Louisiana, HUSSEY 474; †*V. esnehenensis* sp. n. [nom. nud.] Paleocene or Cretaceous, Egypt, NAKKADY 676; †*V. suturalis* sp. n. Eocene, Peru, CUSHMAN & STONE 224; †*V. danvillensis* var. n. *gyroidinoides*; *V. jacksonensis* var. n. *persimilis* Eocene, Alabama, BANDY 60.

†*Verneuilina polonica* sp. n. Jurassic Poland, CUSHMAN & GLAZEWSKI 221; †*V. nana* sp. n. Upper Oligocene; *V. yaguensis* sp. n. Upper Miocene, Dominican Republic, BERMÚDEZ 99.

†*Verneulinoides* gen. n. (p. 90) (genotype *Verneulina schizea* Cushman & Alexander) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN J. Wash. Acad. Sci. 39 (3) 1949 pp. 90–92 [no figs.]

†*Virgulina diversa* sp. n. Eocene, Peru, CUSHMAN & STONE 224; †*V. dominicana* sp. n. Upper Oligo-



cene, Dominican Republic, BERMÚDEZ 99; †*V. dibollensis* var. n. *subtransversalis* [for *V. d. Cushman* 1937 (non fig. 20)]; *V. polymorphinoides* sp. n. Eocene, Alabama, BANDY 60; *V. ishikiensis* sp. n. Miocene, Japan, ASANO 44; †*V. spinulosa, regularis* spp. n. Eocene, Louisiana, HUSSEY 474; †*V. jurassica* sp. n. Jurassic, Poland, CUSHMAN & GLAZEWSKI, 221.

†*Vulvulina dominicana* sp. n. Middle Miocene; *V. (?) vallisensis* sp. n. Middle Eocene, Dominican Republic, BERMÚDEZ 99; †*V. dermouti* sp. n. Upper Tertiary, Java, BOOMGAART 110.

†*Webbinella cretacea* sp. n. Upper Cretaceous, Holland, HOFKER 458.

#### (d) Heliozoa

[No record]

#### (e) Radiolaria

†Radiolaria from the Eocene, Belgium, PASTIELS 739.

†Jurassic-Triassic radiolaria of Japan, KIMURA 521.

†Permo-Triassic or Triassic radiolaria of Japan, KIMURA 522.

†Radiolaria from ? Jurassic, Japan, KIMURA 523.

†*Cannosphaeropsis reticulensis* sp. n. Eocene, Belgium, PASTIELS 739.

### 2.—MASTIGOPHORA

The flagellum as a taxonomic character in Mastigophora and trends based on it, OWEN 718.

List of Flagellates recorded from caecum of ground squirrels, *Citellus* spp., KIRBY & HONIGBERG 528.

#### A. PHYTOMASTIGINA

Phytomastigina of Danish pools and lakes, NYGGAARD 701.

Eugleninae and Chrysomonadinae from freshwater, Russia, KORSHIKOV 540.

#### (a) Chrysomonadida

Rhizopod like Chrysophyceae of Europe, PASCHER 735.

*Actiniscus* in the Adriatic and Tyrrhenian Seas, ZANON 1125.

*Chrysamoeba extensa, pyrenoidifera* spp. n. from swamp and culture, Russia, KORSHIKOV 540.

*Chrysosphaerella brevispina* sp. n. from in pools, Russia, KORSHIKOV 540.

*Diplosigopsis elongata* sp. n. on planktonic diatoms, freshwater, Bohemia, FOTT 345.

*Monadendron* gen. n. (p. 82) *distanis* sp. n. freshwater, Germany, PASCHER Arch. Protistenk. Jena 96 (1) 1942 pp. 75-108 figs.

†*Noctyochea* gen. n. (p. 673) *insolita* sp. n. (type) from Sicilian Miocene, and its affinities, DEFLANDRE C. R. Acad. Sci., Paris 229 1949 pp. 673-4 figs.

*Ochrostylon* gen. n. (p. 80) *epiplankton* sp. n. (genotype) freshwater, Germany, PASCHER Arch. Protistenk. Jena 96 (1) 1942 pp. 75-108 figs.

*Oicomonas epiphytica* sp. n. on *Cyclotella* freshwater, Yugoslavia, FOTT 345.

*Peltomonas* gen. n. (p. 76) *volitans* sp. n. from spring bog, near Prague, VLK Arch. Protistenk, Jena, 95 1941 pp. 76-80 figs.

*Saccochrysis* gen. n. (p. 35) *piriformis, breviciliata* spp. n. from bogs, Russia, KORSHIKOV Arch. Protistenk. Jena 95 (1) 1941 pp. 22-44 figs.

†Silicoflagellates from the Eocene, Belgium, PASTIELS 739.

*Stipitochrysis* gen. n. (p. 38) *monoshiza* sp. n. from bog and in lake, Russia, KORSHIKOV Arch. Protistenk. Jena 95 (1) 1941 pp. 22-44 figs.

*Stokesiella minutissima* sp. n. on *Microcystis*, freshwater, Bohemia, FOTT 345.

*Synochromonas gracilis* sp. n. from river, Russia, KORSHIKOV 540.

*Synura splendida* sp. n. from pools and lakes, Russia, KORSHIKOV 540.

(b) **Cryptomonadida**

*Chroomonas breviciliata* sp. n.; *C. nordstedtii* form. n. minor freshwater, Denmark, NYGAARD 701.

*Cryptochrysis minor* sp. n. freshwater, Denmark, NYGAARD 701.

(c) **Dinoflagellata**

Icelandic dinoflagellates, PAULSEN 741.

†Dinoflagellates from the Eocene, Belgium, PASTIELS 739.

Dinoflagellates of Rott-Tal-Kreise, south Germany, BAUMEISTER 78.

Dinoflagellates of S. Martinho do Porto Bay, Portugal, SOUSA E SILVA & SANTOS-PINTO 938.

*Amalocystis fagei* sp. n. parasitic on *Euphausia* spp. (Crustacea), BOSCHMA 114.

*Amplidinium coprosum* sp. n. meadow swamps, Germany, BAUMEISTER 75.

*Dinophysis granii* sp. n. [nom. n. for *D. granulata* Gran 1902 (non Cleve), and *D. arctica* Hj. Broch 1910 (non Mereschk)]; *D. subcircularis* sp. n. [nom. n. for *D. acuminata* var. *granulata* Jørgensen 1900 (non Claparède & Lachmann)]; *D. islandica borealis*, skagi, *amygdalis* spp. n.; *D. lachmanni* sp. n. [for *D. acuminata* Jørgensen 1899 (non Claparède & Lachmann)]; ? Lindemann 1924; Lebour 1925; ? Dangeard 1926; Martin 1928 (non Böhm nec *D. vanhøffeni* Cleve)] Icelandic waters, PAULSEN 741.

*Gymnodinium acidotum* sp. n.; *G. excavatum* var. n. *dextrorsum*; *G. inversum* var. n. *elongatum* freshwater, Denmark, NYGAARD 701; *G. aesculum*, *terrum* spp. n. meadow swamps, Germany, BAUMEISTER 75.

*Kolkwitziaella salebrosa* Lindemann found to be identical with *Diplopsalis acuta* (Apstein) Entz, BAUMEISTER 79.

*Massartia pratensis* sp. n. meadow swamps, Germany, BAUMEISTER 75.

*Peridinium pentagonoides* sp. n. [?South Atlantic], BALECH 56.

*Stylodinium tarnum* sp. n. wood swamps, Germany, BAUMEISTER 76.

(d) **Euglenoidida**

*Chrysotilos tatraca* sp. n. mountain ponds, Carpathians, Poland, CZOSNOWSKI 231.

*Cyanophora tetracyanea* sp. n. from river, Russia, KORSHIKOV 540.

*Euglena phacoides* sp. n. freshwater, Denmark, NYGAARD 701; *E. convoluta*, *torta* spp. n. freshwater, Russia, KORSHIKOV 540; *E. neustonica* sp. n. freshwater, Germany, GESSNER 386.

*Lepocinclis fusiformis* var. n. *amphirhynchus* freshwater, Denmark, NYGAARD 701; *L. spirogyra* sp. n. from river, Russia, KORSHIKOV 540.

*Phacus anomalus* var. n. *pullus gallinae*; *P. manginii* var. n. *inflatus*; *P. sneecicus* var. n. *inermis* freshwater, Denmark, NYGAARD 701;.

*Trachelomonas chlamydophora* sp. n. freshwater, Denmark, NYGAARD 701.

(e) **Phytomonadida**

*Carteria agloëformis*, *fornicata*, *polysticta*, *stellifera* spp. n. freshwater, Denmark, NYGAARD 701.

*Chlamydomonas anulata*, *bergii*, *capitis*, *clavata*, *excentrica*, *oleosa* spp. n. freshwater, Denmark, NYGAARD 701.

*Platymonas incisa* sp. n. freshwater, Denmark, NYGAARD 701.

*Pteromonas spinosa* sp. n. freshwater, Denmark, NYGAARD 701.

## B. ZOOMASTIGINA

(f) **Protomonadida**

*Arthrochrysis* gen. n. (p. 98), *leptopus*, *pallida* spp. n. freshwater, Germany, PASCHER Arch. Protistenk. Jena 96 (1) 1942 pp. 75–108 figs.

*Arthropyxis* gen. n. (p. 99), (genotype *Stokesiella annulata* Skuja) freshwater, Germany, PASCHER Arch. Protistenk. Jena, 96 (1) 1942 pp. 75–108 figs.

*Bicoeca turrigera* sp. n. freshwater, Denmark, NYGAARD 701.

*Cladonema pauperum* sp. n. freshwater, Germany, PASCHER 736.

*Codonobotrys* gen. n. (p. 101), *physalis* sp. n. freshwater, Germany, PASCHER, Arch. Protistenk. Jena 96 (1) 1942 pp. 75-108 figs.

*Codonodendron* gen. n. (p. 107), [*C. (?) dinobryoideum* = *Bioeca dinobryoidea* Lemmermann] freshwater, Germany, PASCHER Arch. Protistenk. Jena, 96 (1) 1942 pp. 75-108 figs.

*Chilomastix wenrichi* sp. n. from guinea-pig, *C. gigantea* sp. n. from salamander, U.S.A., NIE 690.

*Dimoeriopsis* gen. n. (p. 1) *destructor* sp. n. (near *Bodonidae*) parasitic in ova of *Limnaea* sp., France HOLLANDE & PESSON Bull. biol. France-Belg. 79 1945 pp. 1-16 figs.

*Histiona aroides* sp. n. freshwater, Austrian Alps, PASCHER 737.

*Leishmania*: nomenclature and synonymy of species parasitic in man, KIRK 529.

*Stenocodon* gen. n. (p. 95) *epiplankton* sp. n. freshwater, Germany, PASCHER Arch. Protistenk. Jena, 96 (1) 1942 pp. 75-108 figs.

*Stephanocodon* gen. n. (p. 107) *irregularis* sp. n. freshwater, Germany PASCHER Arch. Protistenk. Jena, 96 (1) 1942 pp. 75-108 figs.

*Stomatochone* gen. n. (p. 92) *infundibuliformis* (genotype), *epiplankton*, *cochlear* spp. n. freshwater, Germany, PASCHER Arch. Protistenk. Jena 96 (1) 1942 pp. 75-108 figs.

*Trypanoplasma pseudoscaphirhynchi* sp. n. from blood of *Pseudoscapirhynchus kaufmanni*, U.S.S.R., OSTROUMOV 712.

*Trypanosoma*: classification of mammalian species, HOARE 452; Key to species of mammalian trypanosomes, HOARE 455; *Trypanosoma cebus* sp. n. from *Cebus fulvus* (?), French Guiana, FLOCH & ABONNENC 336.

#### (g) Trichomonadida

*Caduceia kofoidi* sp. n. from *Glyptotermes*, Brit. Guiana, KIRBY 525.

*Devescovina cuneata*, *D. cuneata* *D. minor* spp. n. from termites, KIRBY 525.

*Foaina inflata*, *F. serrata* spp. n. from *Neotermes*, El Salvador, KIRBY 525.

*Hyperdevescovina*: key to spp., KIRBY 525; *H. calotermitidis* comb. n. (for *Caduceia calotermitidis* Nurse, 1945), *H. caudata*, *H. mitrata*, *H. riciniata*, *H. insignata*, *H. balteata*, *H. falcifera*, *H. torquata* spp. n. from termites, KIRBY 525.

*Macrotrichomonas directa*, *M. emersoni* spp. n. from termites, KIRBY 525.

*Monocercomonoides pilleata* sp. n. from caecum of ground squirrels *Citellus* spp., U.S.A., KIRBY & HONIGBERG 528.

*Trichomonas gallinae* (Rivolta, 1878) Stabler, 1930: discussion of nomenclature and synonymy, JAQUETTE 488; *T. wenyoni* sp. n. from rats and hamsters, U.S.A., WENRICH 1946 (omitted from Z.R. lxxxiii, Sect. 2, 1131.).

#### (h) Hypermastigida

*Holomastigotoides tusitala*, *H. diversa* spp. n. from termites *Protrichotermes* spp., CLEVELAND 184.

#### (i) Diplomonadida

*Hexamitus teres* sp. n. from caecum of ground squirrels, *Citellus* spp., U.S.A., KIRBY & HONIBERG 528.

#### (j) Polymonadida

[No record]

#### Mastigophora insertae sedis

†*Hystrichosphaeridae* from the Eocene, Belgium, PASTIELS 739.

†*Hystrichosphaeridium geometricum* sp. p. Eocene, Belgium, PASTIELS 739.

†*Michrhystridium multispinosum* sp. n. Eocene, Belgium, PASTIELS 739.



## 3. SPOROZOA

## A. COCCIDIOMORPHA

## (a) Gregarinida

*Actinocephalus histolyticus* sp. n. from beetle *Laemostenus algerinus*, Italy, FILIPPONI 326.

*Diplocystis oxycani* sp. n. from moth *Oxycaenus cervinus*, New Zealand, DUMBLETON 277.

*Endocryptella* gen. n. (p. 221) *ghidini*, *elongata* spp. n. from beetles *Pterostichus* and *Calathus* respectively Italy, MORIGGI Arch. Protistenk. 96 1943 pp. 221-234 figs.

Gigaductidae fam. n. to include *Gigaductus* (q. v.), FILIPPONI Arch. Zool. Ital. 33 1948 pp. 293-331 figs.

*Gigaductus*: validity of genus, its revision, and comparison with related genera; *G. macrospora* sp. n. from beetle, *Laemostenus algerinus*, Italy, FILIPPONI 324.

*Gregarina hyaellae* sp. n. from Amphipod *Hyaella azteca*, U.S.A. BATTEN & DEGIUSTI 73; *G. dimorpha* sp. n. from gut of beetle *Chlaenius vestitus*, Italy, FILIPPONI 323.

*Heliospora* gen. n. (p. 29) (nom. n. for *Gregarina longissima* Kölliker, 1848) from gut of *Gammarus pulex*, GOODRICH Q. J. micr. Sc. 90 1949 pp. 27-35 figs.

*Lankesteria* included in fam. Lecudinidae, GANAPATI & TATE 368.

*Rotundula* gen. n. (p. 33) (nom. n. for *Cephaloidophora maculata* Léger & Duboscq, 1911) from gut of *Gammarus pulex*, GOODRICH Q. J. micr. Sc. 90 1949 pp. 27-35 figs.

*Stylocephalus gigas*, *S. reticulatus* sp. n. from beetle, *Blaps gigas*, Italy, FILIPPONI 325.

## (b) Coccidiida

*Eimeria mohavensis* sp. n. from Kangaroo rat, U.S.A., DORAN & JAHN 267; *E. coecicola* sp. n. from domestic rabbit, Russia; with list of other spp. recorded from this host, CHEISSIN 169.

*Pseudohaemogregarina* gen. n. *ranae* sp. n. (type) (p. 21) from blood of *Rana nutti* E. Africa, AWERINZEW

Arch. Protistenk. 95 1941 pp. 15-21 figs.

## (c) Haemosporidia

Classification of the Haemosporidia, CORRADETTI 199.

*Babesia wrighti* sp. n. from ground squirrel, *Citellus variegatus*, U.S.A. TOMLINSON, SMITH & FOGG 1013.

*Françaiella epsteini* sp. n. from ground-squirrel *Citellus* sp., Central Asia, ZASSUCHIN 1126.

Haemoproteidae: their inclusion in the fam. Plasmodiidae proposed, CORRADETTI 198.

*Piroplasma lemniscomysi* sp. n. from rat *Lemniscomys striatus*, Africa ROUSSELOT 841.

Plasmodiidae: re-definition of family, RAY 791.

*Plasmodium oti* Wolfson, 1936, regarded as synonym of *P. hexamerium* Huff, 1935, MANWELL 612; *P. vivax hibernans* subsp. n. and *P. v. vivax* (G. & F. 1890) emend., for strains with long and short incubation periods respectively, NIKOLAEV 692.

## B. CNIDOSPORIDIA

## (d) Myxosporidia

*Chloromyxum scyliorhinum* sp. n. from shark *Scyliorhinus torazame*, Korean coast, NOBLE 693.

*Myxobolus bengalensis* sp. n. from Indian fish, *Catla catla*, CHAKRAVARTY & BASU 161.

*Thelohanella catlae* sp. n. from Indian fish, *Catla catla*, CHAKRAVARTY & BASU 161.

## (e) Microsporidia

Key to Microsporidia, with host-list, WEISER 1076.

*Nosema destructor* sp. n. from tuberworm (*Gnorimoschema*), U.S.A. STEINHAUS & HUGHES 946; *N. coliadis* sp. n. from caterpillar of *Colias*, Argentina, JAUCH & JAUCH 496.

*Plistophora californica* sp. n. from tuberworm (*Gnorimoschema*), U.S.A., STEINHAUS & HUGHES 946.

(f) **Actinomyxidia**

[No record]

(g) **Sarcosporidia**

[No record]

(h) **Haplosporidia**

*Coelomycidium ephemeræ* sp. n. from larvae of *Cloëon* (Ephemeridae), Czechoslovakia, WEISER 1077.

*Haplosporidium aselli* sp. n. from *Astellus*, Germany, PFLUGFELDER 753; *H. bayeri* sp. n., *H. ecdyonuris* sp. n. from Ephemerid larvae, Czechoslovakia, WEISER 1077.

## 4. CILIOPHORA

## A. OPALINATA

[No record]

## B. CILIATA

Ciliates from the Venice lagoon, KIESSELBACH 516.

Freshwater ciliates from Spain, MARGALEF 616.

(a) **Holotrichida**

*Ancistrum macomæ* sp. n. from gills of mollusc *Macoma* (*Tellina*) *tenuis*, Roscoff, CHATTON & LWOFF 167.

*Anoplophrya stromboides* sp. n., *A. cavernosa* sp. n., *A. pelmatoida* sp. n., *oncodes* sp. n., *A. longinuclea* sp. n., *A. macrogongylus* sp. n., *A. setosa* sp. n., *A. pachycallyma* sp. n., *A. ochridensis* sp. n., from Oligochaetes, Yugoslavia, GEORGÉVITCH 384.

*Bütschliella longicollus* sp. n., *B. subaculeata* sp. n. from oligochaete *Eiseniella* spp., Yugoslavia, GEORGÉVITCH 384.

*Cheissinia* gen. n. [nom. n. for *Tiarella* Cheissin 1931 preoc. Swainson 1840] (p. 223) [genotype *Cheissinia* (= *Tiarella*) *baicalensis* (Cheissin 1931)], CHATTON & LWOFF Arch. zool. exp. gén. Paris, 86 1949 pp. 169-253 figs.

*Cotylolithigma* gen. n. (p. 55) (nom. n. for *Ptychostomum rhynchelmis*: genotype) from gut of *Rhynchelmis*, RAABE Ann. Mus. zool. Polon. 14 (4) 1949 pp. 21-68 figs.

*Espejoia*, systematic position of, FAURÉ-FREMIET & MUGARD 307.

*Glaucoma-Colpidium* group, problem of designation, FURGASON 357.

*Hoplithophrya lituiprimus* sp. n. from oligochaete *Eiseniella*, Yugoslavia, GEORGÉVITCH 384.

*Hysterocinetia cheissini* sp. n. from gut of *Bithynia tentaculata*, Poland, RAABE 777.

Hysterocinetidae: systematic position of the family and its affinities, RAABE 777.

*Intoshellina sicyodes* sp. n. from oligochaete *Limnodrilus*, Yugoslavia, GEORGÉVITCH 384.

*Kystolithigma* gen. n. (p. 54) (nom. n. for *Ptychostomum bacteriophilum*: genotype) from *Criodrilus*, Japan, RAABE Ann. Mus. zool. Polon. 14 (4) 1949 pp. 21-68 figs.

*Mesnilella hynnis* sp. n., *M. aculeata* sp. n. from Polychaetes, Yugoslavia, GEORGÉVITCH 384.

Metastomidae fam. n. (Holotricha Astomata), GEORGÉVITCH Ghlas Srpsk. kralj. Acad., Belgrade 93 1941 pp. 1-99 figs.

*Metastomum* gen. n. (p. 40) *ochridense* sp. n. from Oligochaete *Eiseniella* sp., Yugoslavia, GEORGÉVITCH Ghlas Srpsk. Kralj. Acad., Belgrade 93 1941 pp. 1-99 figs.

*Mictherothrix rottalensis* sp. n. from snow-water filled valley. Germany, BAUMEISTER 77.

*Ochridanus* gen. n. (p. 72) *ocellatus* sp. n. from Tubificidae (Oligochaeta), Yugoslavia, GEORGÉVITCH Ghlas Srpsk. Kralj. Akad., Belgrade 93 1941 pp. 1-99 figs.

*Protophrya ovicola* Kofoid does not belong to Ancistrumidae or Thigmotricha, but the same species *sensu* Cépède is identical with *Ancistruma cyclidioides* Issel, RAABE 780.

*Protoptychostomum* gen. n. (p. 35) nom. n. for *Ptychostomum simplex* (genotype), from intestine of *Eiseniella tetraedra*, Poland, RAABE Ann. Mus. zool. Polon. 14 (4) 1949 pp. 21-68 figs.

*Radiophryopsis* gen. n. (p. 69) *acanthostephanus* sp. n. from Lumbri- culidae (Oligochaeta), Yugoslavia GEORGEVITCH Ghlas Srpsk. kralj. Acad., Belgrade 93 1941 pp. 1-99 figs.

*Tetrahymena* gen. n. (p. 258), *geleii* sp. n. (genotype) in culture, FURGASON Arch. Protistenk., Jena, 94 (3) 1940 pp. 224-266 figs.

*Sieboldiellina acetabulifera* sp. n., *S. ohridensis* sp. n. from Trilada, Yugoslavia, GEORGEVITCH 385.

Thigmotricha: classification and affinities of the suborder, CHATTON & LWOFF 167.

## (b) Heterotrichida

Marine Heterotrichida from Tristan da Cunha, DONS 266.

Folliculinidae, Key to British forms, DAS 242.

Folliculinidae, British records of species, DAS 241.

*Folliculinopsis elongata* sp. n. from coast of England, DAS 242.

*Lagotia minor* sp. n. attached to *Spirotrhis* South Atlantic, DONS 266.

*Nyctotherus cochlearis* sp. n. from rectum of Indian frog, *Rana curtipes*, UTTANGI 1031.

*Parafolliculina tristanensis* sp. n. attached to ascidians, South Atlantic, DONS 266.

## (c) Oligotrichida

*Cirrhogaster* gen. n. (p. 79), *monilifer* (genotype) from seaweed surfaces Japanese waters, OZAKI & YAGU Annot. zool. jap. 21 1942 pp. 79-81 figs.

Tintinninea from the coast of Portugal, SOUSA E SILVA & SANTOS-PINTO 939.

## (d) Entodiniomorpha

[No record]

## (e) Hypotrichida

*Kiitricha* gen. n. (p. 24) *marina* (genotype) sp. n. from seaweed, Japanese waters, NOZAWA Annot. zool. jap. 20 1941 pp. 24-26.

*Stichotricha intermedia* sp. n. freshwater, London, FROUD 353.

## (f) Peritrichida

Listed peritrichs from Heligoland, some noted as new [for description see title 993, Zool. Rec. (2) lxxvi, p. 49] STILLER 952.

Marine Peritrichida from Tristan da Cunha, DONS 266.

*Epistylis trituri* sp. n. ectoparasitic on newts, *Triturus* spp., France FAURÉ-FREMIET 203.

*Miculopodium* subgen. n. (p. 130) of *Vaginicola*, type *V. cementata* sp. n. ectoparasitic on wood-louse *Microlistra spinosissima*, Yugoslavia, HADŽI Razpr. Mat.-Prirod. Razr. Akad. Znan. Ljubljana 1 1940 pp. 121-148 figs.

*Opercularia bathyomphalus*, *hustedtii* spp. n. freshwater, Switzerland, SOMMER 932.

*Platycola lageniformis* sp. n., *P. callistoma* sp. n., ectoparasitic on wood-louse, *Microlistra spinosissima*, Yugoslavia, HADŽI 415.

*Pyxicola psammata* sp. n. ectoparasitic on wood-louse, *Microlistra spinosissima*, Yugoslavia, HADŽI 415.

*Scyphidia microlistrae* sp. n. ectoparasitic on wood-louse *Microlistra spinosissima*, Yugoslavia, HADŽI 415; *S. ubiquita* sp. n. parasitising ctenidia and mantle cavities of *Acmaea*, *Lottia*, *Tegula* and *Fissurella*, South California, HIRSHFIELD 449.

*Trichochona* gen. n. (p. 2) *lecythoides* sp. n. (type-sp.) ectoparasitic on crustacean *Amphitoë*, California coast, MOHR Occas. Pap. A Hancock Found. Pub. Los Angeles 5 1948 pp. 1-20 figs.

*Trichodina branchicola* sp. n. from gills of Teleost fishes, Plymouth; with list of *Trichodina* spp. and their hosts, TRIPATHI 1026; *T. tegula* sp. n. parasitising mantle cavities of two species of *Tegula*, South California, HIRSHFIELD 449.



*Urceolaria karyolobia* sp. n. parasitising mantle cavities of the genera *Acmasa* and *Lottia*, South California, HIRSHFIELD 449.

*Vaginicola subcylindrica* sp. n., *V. (Miculopodium) subgen. n.*, q.v.) *cementata* sp. n. ectoparasitic on wood-louse, *Microlistra spinosissima*, Yugoslavia, HADŽI Razpr. Mat.-Prirod. Razr. Akad. Znan. Ljubljana 1 1940 pp. 121-148 figs; *V. oviformis* sp. n. attached to ascidians, South Atlantic, DONS 266.

#### (g) Chonotrichida

Marine Chonotrichida from Tristan da Cunha, DONS 266.

*Stylochona sivertseni* sp. n. on alga *Epymenia*, South Atlantic, DONS 266.

#### C. SUCTORIA

Planktonic Suctorina from Palao [Pewleu Islands], NOZAWA 669.

*Podophrya parasitica* sp. n. ectoparasitic on ciliate, *Nassula ornata*, France, FAURÉ-FREMIET 302.

*Spathocyathus* gen. n. (p. 58) *caridina* sp. n. (genotype) attached to freshwater shrimp *Caridina* sp. China, NIE & LU Sinensa, Nanking 16 1945 pp. 57-64.

*Tokophrya bathynellae* sp. n. ectoparasitic on crustacea *Bathynella* spp. Hungary, CHAPPUIS 166.

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†*Cercidina* gen. n. (p. 290) *supracretacea* sp. n. (genotype) [for 'organisme indéterminé' de Laparent 1918] Cretaceous, Misol, East Indies, VOGLER Palaeontographica, Stuttgart, Suppl. 4 (4) (4) 1941 pp. 243-314 figs.

*Toxoplasma*: discussion of systematic position, BIOCCA 103.



